

#### UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT:

Bickford, Randall L.

**SERIAL NO.:** 

10/600,721

FILED:

June 20, 2003

FOR:

Surveillance System and

Method having an Operating

Mode Partitioned Fault

Classification Model

To:

**Commissioner For Patents** 

P.O. Box 1450

Alexandria, Virginia 22313-1450

#### TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT BEFORE MAILING OF FIRST OFFICE ACTION UNDER 37 CFR 1.97(b)

The patents and publications listed on the appended PTO/SB/08A form (Substitute for form 1449A/PTO) reflect the state of the art of which applicant is currently aware. These references are included to fulfill the applicant's duty to disclose prior art. It is stipulated, however, that none of these references teach singly, nor render obvious when combined, the nexus of this invention as disclosed and as particularly claimed.

#### IDENTIFICATION OF TIME OF FILING THE ACCOMPANYING INFORMATION DISCLOSURE STATEMENT

This information disclosure statement, including the attachments submitted herewith, are being filed before the mailing date of a first Office Action on the merits.

Dated: January 6, 2004

Respectfully Submitted:

ART UNIT: 2121

**EXAMINER:** Not Yet Assigned

Telephone: (916) 449-3983 Registration No.: 42,471

[Information Disclosure Statement]

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PTO/SB/08A (10-96)
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Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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### INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1 of 8

C mpl te if Known				
Application Number	10/600,721			
Filing Date	6/20/2003			
First Named Inventor	Bickford, Randall L.			
Group Art Unit	2121			
Examiner Name	Not yet Assigned			
Attorney Docket Number	23406-cip			

				U.S. PATENT DOCU	JMENTS	
Examiner Initials*	Cite No.1	U.S. Patent Number	Document Kind Code <sup>2</sup> (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	4,295,128		Hashemian et al.	10-13-1981	
	2	4,478,783		Broadwater	10-23-1984	
	3	4,761,748		Le Rat et al.	08-02-1988	
	4	4,937,763		Mott	06-26-1990	
	5	4,975,968		Yukl, Tex	12-04-1990	
	6	5,009,833		Takeuchi et al.	04-23-1991	
	7	5,223,207		Gross et al.	06-29-1993	
	8	5,274,572		O'Neil et al.	12-28-1993	
	9	5,381,140		Kuroda, et al.	01-10-1995	
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	20	5,680,409		Qin et al.	10-21-1997	

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Examiner	Cite	F	oreign Patent Do			Name of Patentee or	Date of Publication of	Pages, Columns, Lines, Where Relevant	
Initials	No.1	Office <sup>3</sup>	Number <sup>4</sup>	Kind Co		Applicant of Cited Document	Cited Document MM-DD-YYYY	Passages or Relevant Figures Appear	T <sup>6</sup>
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<sup>&</sup>lt;sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

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Sheet 2 of 8

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	21	5,706,321	Chen et al.	06-06-1998	
	22	5,740,033	Wassick et al.	04-14-1998	
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	40	6,240,372	Gross, et al.	05-29-2001	

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Examiner Initials*	No.1	Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known)	Applicant of Cited Document	Cited Document MM-DD-YYYY	Passages or Relevant Figures Appear	T <sup>6</sup>
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	41	6,415,276	Heger, et al.	07-02-2002				
	42	6,466,858	Adibhatla, et al.	10-15-2002				
	43	6,502,085	Adibhatla, et al.	12-31-2002				
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	45	6,535,865	Skaaning, et al.	03-18-2003				
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	47	6,553,334	Gross, et al.	04-22-2003				
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	50	2002/0042692	Gross, et al.	04-11-2002				
	51	2002/0055826	Wegerich, et al.	05-09-2002				
	52	2002/0087290	Wegerich, et al.	07-04-2002				
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	54	2002/0128731	Wegerich, et al.	09-12-2002				
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	56	2002/0152056	Herzog, et al.	10-17-2002				
	57	2002/0183971	Wegerich, et al.	12-05-2002				
	58	2002/0188423	Gross, et al.	12-12-2002				
	59	2002/0193933	Adibhatla, et al.	12-19-2002				
	60	2003/0028349	Gross, et al.	02-06-2003				

				FORI	EIGN PATENT DOCUMEN	TS		
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Sheet 4 of 8

C	Complet if Known				
Application Number	10/600,721				
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First Named Inventor	Bickford, Randall L.				
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	61	2003/0055607		Wegerich, et al.	03-20-2003	
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	FOREIGN PATENT DOCUMENTS										
Examiner	Cite		oreign Patent Do	cument Kind Code <sup>5</sup>	Name of Patentee or	Date of Publication of	Pages, Columns, Lines, Where Relevant				
Initials*	No.1	Office <sup>3</sup>	Number <sup>4</sup>	(if known)	Applicant of Cited Document	Cited Document MM-DD-YYYY	Passages or Relevant Figures Appear	T6			
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Compl t if Known

# INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Application Number 10/600,721

Filing Date 6/20/2003

First Named Inventor Bickford, Randall L.

Group Art Unit 2121

Examiner Name Not yet Assigned

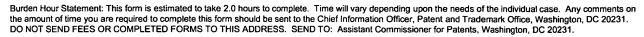
Attorney Docket Number 23406-cip

Sheet 5 of 8

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the Examiner Cite item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), Initials No. publisher, city and/or country where published. BICKFORD, R.L., Phase Partioning the Multivariate State Estimation Technique (MSET) Process for Improved 62 Parameter Estimation Performance and Processing Speed, New Technology Report, January 13, 2000, Printed in USA by Expert Microsystems, Inc. HERZOG, J.P., System Classification Using A Learning Vector Quantization (LVQ) Neural Network New Technology Report, January 13, 2000, Printed in USA by Argonne National Laboratory. 63 HERZOG, J.P., et al, MSET Modeling of Crystal River-3 Venturi Flow Meters, 6th International Conference on 64 Nuclear Engineering, 1998, Printed in USA by ASME HERZOG, J.P., et al. Dynamics Sensor Validation For Reusable Launch Vehicle Propulsion, 34th AIAA/ASME/SAE/ ASEE Joint Propulsion Conference, 1998, Printed in USA by Argonne National Laboratory & 65 Expert Microsystems. GROSS, K.C., et al, Application of a Model-based Fault Detection System to Nuclear Plant Signals, 66 International Conference on Intellegent System Application To Power Systems, July 1997, Printed in USA by Argonne National Laboratory & Florida Power Corporation. SINGER, R.M., et al, Model-Based Nuclear Power Plant Monitoring And Fault Detection: Theoretical Foundations, International Conference On Intelligent Systems, July 1997, Printed in USA by Argonne National Laboratory. HYLKO, J.M., New Al Technique Detects Instruments, Power, November 1998, Printed in USA by Power. 68 DEYST, J.J., Sensor Validation: Method To Enhance The Quality Of The Man/Machine Interface In Nuclear 69 Power Stations, IEEE Transactions On Nuclear Science, February 1981, Printed in USA by IEEE Transactions On Nuclear Science. GROSS, K.C., et al, Sequential Probability Ratio Test For Nuclear Plant Component Surveillance, Nuclear Technology, 1990, Printed in USA by Argonne National Laboratory. RACZ, A., Comments On The Sequential Probability Ratio Testing Methods, Ann. Nuclear Energy, 1995, Printed in USA by KFKI-Atomic Energy Research Institute Applied Reactor Physics Laboratory. 71 KULACSY, K., Further Comments On The Sequential Probability Ratio Testing Methods, Annals Of Nuclear Energy, 1996, Printed in USA by KFKI Atomic Energy Research Institute 72

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Examiner	Date	
Signature	Considered	

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Sheet 6 of 8

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Cite No.1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s),	T <sup>2</sup>
1	publisher, city and/or country where published.	Ľ
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78	MOTT, J.E., et al, EBR-II System Surveillance Using Pattern Recognition Software, ANS/ENS Mtg. on Operability of Nuclear Power Systems, September 1986, Printed in USA by Saratoga Engineering Consultants and Argonne National Laboratory	
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Signature	 Considered	



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Sheet of 8

Compl te if Known					
Application Number	10/600,721				
Filing Date	6/20/2003				
First Named Inventor	Bickford, Randall L.				
Group Art Unit	2121				
Examiner Name	Not yet Assigned				
Attorney Docket Number	23406-cip				

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Examiner Initials*	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.									
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